DOCUMENT RESUME

ED 457 923 JC 010 680

TITLE	learning@maricopa.edu.
INSTITUTION	Maricopa County Community Coll. District, Tempe, AZ. Maricopa Center for Learning and Instruction.
PUB DATE	1997-10-00
NOTE	19p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Cognitive Processes; College Role; *Community Colleges; Culture; Diversity (Student); Leadership; *Learning; Learning Modalities; Learning Processes; Learning Strategies; *Learning Theories; Lifelong Learning; Scholarship; Social Behavior; Two Year Colleges
IDENTIFIERS	*Maricopa County Community College District AZ

ABSTRACT

The Maricopa Community College District (MCCD) intends this document to serve as a starting point for focusing on the following major themes: (1) dialogue about learning, given that changes are occurring in and around the learning process; (2) a common understanding of learning as a complex process on order to provide a framework for dialogue; and (3) understanding learning from a systems perspective in which the various components of learning cluster together and support holistic and cohesive opportunities for change. The authors contend that definitive, singular answers about learning invariably miss the mark because learning is too complex to be subjected to reductivism. The paper identifies eight characteristics of learning: (1) complex; (2) transformational; (3) natural and lifelong; (4) multi-level; (5) fundamentally personal, yet also social; (6) active and interactive; (7) measurable; and (8) greatly influenced by organizational factors, including leadership, culture, and structure. The paper concludes with questions that can be asked in order to put theory into action: How do we help faculty and others who support learning to research, develop, and/or innovate their current systems and processes to focus on learning outcomes? and How do we increase support for professional growth and employee renewal to perpetuate learning needs? (Contains 13 references.) (NB)

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"We are at the very point in time when a 400 year old age is dying and another is struggling to be born — a shifting of culture, science, society and institutions enormously greater than the world has ever experienced"

(Dee Hock, Organizational Theorist, 1996)

Foreword

Every so often, as history demonstrates, a convergence of discovery, new knowledge and innovation causes fundamental changes in the way we think and view the world. The birth of nations, governments, religions, institutions, and new sciences/technologies provide examples of how powerful a revolution in thinking and innovation can be. The impact of such changes on our lives can be dramatic.

learning@maricopa.edu is about learning and the convergent influences that effect it. It is about creating dialogues that lead to discovery, new knowledge, innovation and, ultimately, transformation. It is also about how our work as educators will continue to change as a result of the "new knowledge" and compelling forces in and around our profession. Finally, *learning@maricopa.edu* questions how we, as individuals and as an organization, will choose to define learning in the future.

We designed *learning@maricopa.edu* to function as a provocateur. We will offer a description of learning, raise questions about current practices, revisit fundamental assumptions, and pose questions with the purpose of soliciting feedback. This is done within the context of collegiality and with a deep reverence for academic freedom.

If this document stimulates dialogue, the reconsideration of current practice, or the reaffirmation of such, our success will be moderate. But, if *learning@maricopa.edu* provokes a transformation in the how the individual or the organization views learning, then our success is considerable.

We invite you and your colleagues to join us as we attempt to enrich and deepen the collective understanding of learning.

The ability to learn faster than your competitors may be the only sustainable competitive advantage.

Arie P. de Gues, Organizational Learning Pioneer

Collegiality in higher education is a pattern of behavior characterized by an emphasis on teaching and learning, frequent interaction, tolerance of differences, generational and workload equity, peer evaluation, and consensus decision-making.

William Massey, Andrea Wilger and Carol Colbeck, "Overcoming Hallowed Collegiality," 1994

Bob Bendotti, Faculty
Paradise Valley Community College

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Chronological History of the Maricopa Community College District PEW Charitable Trust/American Council on Education Roundtable

1992 Members of Maricopa's leadership begin participating in policy discussions concerning the state of higher education. The discussions involve educational leadership from around the country and are facilitated by PEW.

1993 Maricopa becomes a partner in the PEW Roundtable's efforts to examine obstacles to change and transformation in higher education. A leadership team of faculty and administration is created. Through a series of discussions, a change initiative is adopted. "To change the learning paradigm from a traditional one to a more learner-centered one" becomes the official initiative of the Maricopa PEW leadership team.

1994 The leadership team, along with other faculty and administrators, develop the "Maricopa Roundtable Policy Draft." Included are four key elements of learning along with descriptions of what are called the "traditional" and "desired" learning paradigms. The draft is disseminated to the colleges through a series of roundtables. Feedback is received concerning the key components and the descriptions of the traditional and the desired learning paradigms.

1995 The leadership team continues and adds new members. PEW decreases its involvement and another national organization, ACE (American Council on Education) invites Maricopa to participate in a similar initiative officially titled, "The ACE Project on Leadership and Institutional Transformation."

1996 Through work with representatives from ACE and other community colleges around the country, it is discovered that the Maricopa Roundtable Policy Draft is virtually unknown to the majority of our faculty. The first goal with the ACE project is to widely disseminate the document and receive feedback.

The Instructional Councils are convened to discuss the document. By January 1997, written responses are received from 36 Instructional Councils, 13 college divisions, and four individuals. While these responses are being written, a new leadership/project team is created. This is a smaller, project-oriented team that consists of a few members of the previous group and some new members. The responses are read by this team, compiled together, and sent to the libraries at each campus.

1997 Two members of the new project team (Bob Bendotti and Donna Tannehill) are asked to focus on the responses and draft a new document that reflects what learning means at Maricopa. While they are the principle authors, the document reflects the collective thinking of the entire project team, a faculty review board, and, hopefully, Maricopa faculty as a whole.

Introduction

For those involved in, connected to, and served by higher education, there is no dialogue more important than the one focused on learning. It is an ongoing discussion that requires critical inquiry. It calls on us to reflect upon our profession and our fidelity to our personal mission and that of the Maricopa Community College District (MCCD). Ultimately, we may even question the authenticity of our work.

Such dialogue challenges our own ability to learn and change within the context of the organizational cultures of our colleges and the MCCD. It calls on us to employ higher level skills — analysis, synthesis, evaluation, imagination and systems thinking — to achieve a deeper understanding of a complex process.

Faculty know there's a problem indeed with learning...and they know it will take more than a new mantra to turn that around.

Ted Marchese, American Association of Higher Education

This document is intended to serve as a starting point for such dialogue. It focuses on the following major themes that were abstracted from responses to the *Maricopa Roundtable Policy Perspectives* paper and the discussions that followed it:

- Dialogue about learning is important, given that changes are occurring in and around the learning process.
- A common understanding of learning as a complex process provides a valuable framework for dialogue.
- Learning is best understood from a systems perspective in which the various components of learning "hang together," and support holistic and cohesive opportunities for change.

A tradition of vigorous criticism and reflection is essential to successful organizations. Neither uncritical lovers nor unloving critics make for organizational renewal.

John Gardener, Author

While we offer personal insights, descriptions and suggestions, we do not purport to have "answers." We believe that definitive, singular answers about learning invariably miss the mark because learning is far too complex to be subject to reductionism. It is the very complexity of the synergistic relationships between psychology, cognitive science, technology, biology, and organizational development that makes "learning about learning" such an exhilarating experience. We believe it is far more informing to explore learning as a dynamic and transformational process, and sharpen our understanding of the relationships that influence it.

In the spirit of collegiality, we invite members of the Maricopa community to engage in an ongoing dialogue about learning. We encourage the use of this document, along with other resources, to expand the dialogue among MCCD Faculty, administrators, staff, governing board members, students and external constituencies. Readers are also encouraged to act on what they may learn during this process so that our classrooms, real and virtual, and the system that supports learning within MCCD may be transformed.

Dialogue is a disciplined form of conversation leading to the generation of new knowledge and learning.

William Isaacs, DIA-Logo, Inc.

Exploring Assumptions

Central to a substantive dialogue about learning is a shared understanding of what the term "learning" actually means. In most colleges and universities, limited discussion and reflective time is

spent on systematically and continuously developing a collective understanding of learning — the process at the core of our profession. The Maricopa Community College District is no exception. The general scarcity (exceptions are acknowledged) or truncated nature of dialogue about learning suggests the existence of at least three overarching **organizational** assumptions:

We are witnessing a virtual explosion in knowledge about human learning.

Ted Marchese, American Association of Higher Education

1. Faculty, and others who support the learning process, possess a deep understanding of learning.
2. The body of knowledge which underpins learning is relatively static.
3. Since learning is deeply personal, the collective dialogue on how to facilitate the learning process is of marginal value.

However, many of the responses to the *Maricopa Roundtable Policy Perspectives* paper received after the October 1996 Instructional Council Meeting question or contradict the above assumptions on an individual level.

The more we discover about how the mind works and how students learn, the more disparity between what we say and what we do.

Robert Barr and John Tagg, "From Teaching to Learning," 1995

Some faculty respondents state that we must have "more dialogue about learning and its elements," and "more opportunities to learn about learning." Others recognize the "new complexity of learning" and the "accelerating tension between traditional and emerging teaching strategies and techniques." Faculty comment also identifies the "changing demographics of students being served" and the "increasing diversity of entry level skills of students enrolling in MCCD" as key elements that impact the teaching/learning relationship.

Academic freedom is based on two interlocking principles: 1) that colleges and universities serve the common good through learning, teaching, research and scholarship and, 2) that fulfillment of this function necessarily rests upon the preservation of the intellectual freedoms of teaching, expression, research and debate.

American Association of University Professors

Even more enlightening, however, are the large number of responses that state fundamental disagreement with some of the central elements of the *Maricopa Roundtable Policy Perspectives*. The notion of the learner as "customer," the dichotomy between the "desired and traditional paradigm," the "vocationalization" of education, and the tension between the "prescriptive nature of the document and academic freedom" each triggered negative responses and therefore signal opportunities for dialogue and learning.

Perhaps most revealing are the number of responses indicating that the transition to the "desired paradigm" advocated in the document is "in process or has already taken place." As such, many view the paper's call for change as an indication of "communication problems" and as evidence of a "disconnect."

Redefining Assumptions

Research about learning, both within education and in related disciplines, coupled with the abundance of teaching and learning improvement initiatives, indicate that learning is being discussed on many levels. However, Peter Ewell (1997) makes the following observation:

> Our limited success in actually improving collegiate learning has . . . not been for want of trying. Nor, at bottom, is it a result of our not really knowing quite a bit already about what works and what doesn't. Instead limited impact is the result of two key conditions that characterize most of the approaches to instructional improvement that we have actually tried: 1) they have, for the most part, been attempted piecemeal both within and across institutions and, 2) they have been implemented in the absence of a broadly-discussed and well articulated understanding of **what "collegiate learning" really means** in a particular collegiate community, and of the specific circumstances and strategies that are likely to promote it. (p. 1)

Our traditional, hierarchical management systems are designed for controlling . . . not for learning.

Arie P. de Gues, Organizational Learning Pioneer

We believe Ewell's statement accurately reflects the current conditions involving learning in the MCCD. The description identifies two dimensions of learning: individual and organizational. It implies that the MCCD's core mission, to foster deep and lasting student learning, is fundamentally linked to our understanding of both learning **and** the organizational system in which the mission resides.

Responses to the *Maricopa Roundtable Policy Perspectives*, along with the prominence of teaching and learning initiatives, indicate that the three organizational assumptions referenced earlier do not apply to the MCCD. Rather, faculty and others who support learning appear to agree that:

1. Extending our understanding of learning holds the promise of improvements in both individual and organizational learning,
2. As we define learning for the MCCD through collective dialogue, the organization must be holistically reconceived to better support it, and
3. Broad-based dialogue about learning is valuable.

Members of MCCD's college community — faculty, staff, administrators and the governing board — are committed to an ongoing dialogue on learning. What appears to be missing is a **coherent and sustainable system** that: 1) promotes continued dialogue and, 2) facilitates our individual and organizational ability to align and act on the learning initiatives that emerge from the dialogue.

We know a lot more about what can be done to improve higher learning. Solid research on how learning occurs, on how it can be best facilitated, and how organizations that foster it should be structured has burgeoned over the last ten years.

Peter Ewell, "Organizing for Learning: A Point of Entry," 1997

A Systems Perspective of Learning

Understanding how learning occurs, and creating a coherent and sustainable system that fosters it, requires a "new way of viewing our world" in and around the Maricopa Community College District. Within this new vision we must reevaluate the entire learning system in terms of the complexity of relationships and patterns that support its viability, as well as our own role within the system.

Learning viewed through a systems perspective identifies the ready dichotomies that exist among different work groups within and

around the MCCD "system." Without the systems perspective, each group views their efforts in terms of primacy, not in how the work relates to the whole. This view of primacy results in work efforts that are worthy yet fragmented and often unsustainable. Only by relating learning to the whole can we achieve cohesiveness and substantive transformation.

System: A system is a perceived whole whose elements "hang together" because they continually affect each other over time and operate toward a common purpose. Examples of systems include the human body, ecological niches, and all organizations.

Arthur Kleiner, Innovation Associates

At the pragmatic level, a systems perspective of learning requires a reconception, or sharpening of purpose, around fundamental questions such as:

- How does what I (or we) do contribute to student learning?
- How will learning be enhanced by this idea? This technology? This organizational structure? This hiring decision? This policy governance model? etc.
- How should we respond to what we've already learned about how deep and lasting learning occurs?
- How can we increase our capacity to move new knowledge about learning into the organizational mainstream?
- How can we involve employers and other members of our community in the dialogue about learning?

Viewing student learning from a systems perspective reveals the degree of alignment between the mission of an organization and its polices, practices and behaviors. It also reflects the authenticity of the organization's proclaimed values and the nature of the culture that enriches or diminishes them.

"The primary goal of any organization, and the people who work in it, should be to reduce the interval between discovery and its assimilation into the organization."

Dee Hock, Organizational Theorist

What is Learning?

The importance of a consensual understanding of learning that can be well articulated is obvious. To this end, we extend the following characteristics of learning for your consideration.

Learning is:

- complex
- transformational
- natural, and life-long
- multi-level
- fundamentally personal, yet also social
- active and interactive
- measurable
- greatly influenced by organizational factors, including leadership, culture and structures.

Policy and structure are the institutional embodiment of purpose.

Philip Selznick, Leadership Theorist

Justly describing each of these characteristics is a formidable challenge. Our subsequent discussion is, therefore, intended to serve as a starting point for continued dialogue and reflection.

Delving Deeper Into Learning

The insights we provide about learning are not revolutionary. We recognize that those involved in the education process have always, to some degree, reflected on the various components of learning.

What may be revolutionary, however, is the consideration of learning from a systems perspective. We encourage you to think about the characteristics of learning in terms of the relationships, synergy and opportunities they suggest to the whole Maricopa system. We invite you to draw connecting lines, look for patterns, and think in terms of how the MCCD might go about creating organizational settings that foster deep and lasting student learning. We add to the dialogue the following observations:

Organizational learning is learning that occurs as a result of an infrastructure and support that expands learning beyond the individual level. Its three core activities include research, practice and capacity-building.

Peter Senge, Society for Organizational Learning

- Learning is **complex**.

The complexities of learning are manifest in the sheer number and nature of the factors that influence it. Consider the following observations:

- Research, discovery and innovation in the fields of psychology, biology, technology, human and organizational behavior, and cognitive science have identified previously unknown opportunities to significantly influence learning.
- Beyond recent theories of multiple intelligences and learning styles, educators are challenged to determine practical ways to act on such theories within the context of real and virtual classrooms.
- Increasingly, learners come to higher education in different states of preparedness.
- As human beings, learners are inherently complex. They bring divergent sets of values, experiences, abilities, and motivations to the learning process.

The rate at which organizations learn may be the only sustainable source of competitive advantage.

Ray Strata, Analog Devices, Inc.

Implicit in each observation is a "call to action," a call to make changes in individual thinking and behavior, as well as in organizational policies, practices and structures. Taken individually, these statements signal either an opportunity that fosters learning or a threat that limits it. Viewed systemically, the observations are connected and are, therefore, best understood and acted on as pieces of the whole that "hang together."

Psychiatrists at Johns Hopkins University recently reported brain research findings that indicate that it takes the brain six hours to permanently store new skills such as playing the piano, welding , tennis or keyboarding in the brain. Interrupting the "storage process" by learning a new skill appears to erase the first skill.

Arizona Republic, July 1997

- Learning is **transformational**

The transformational nature of learning is so fundamental that it is often overlooked. We believe that learning is the most powerful process in human and organizational development. Learning leads not only to new ways of thinking, behaving and viewing the world, but also affects others who are connected to the learner's environment.

Indicators that learning has occurred, which become evident over time, include:

- moving from one state of being and/or knowing to another,
- explicit changes in thinking and/or active practice,
- observable increases in aptitude,
- making meaning of one's world on the basis of new knowledge and experience, and
- establishing connections between concepts, experiences, people and skills.

Given the power of learning to transform both students and the organization, a systemic approach can be used to encourage it. We believe that evidence of "active practice" and "establishing connections" are authentic indicators of the transformation process. Therefore, initiatives that facilitate activities such as service learning, learning communities, integrated learning, cooperative education, apprenticeships and internships should be moved from the margins to the organizational mainstream. In order to make such a movement, fundamental change may be needed in areas such as college and discipline structures, scheduling, faculty and staff development, incentives and rewards, and a host of additional "connected" considerations.

A final point about learning as a transforming process: While there is extensive research indicating that people "transform" at different rates and in different ways, learners, faculty, and others who support learning generally remain "captives of the clock." Since a continuing theme of this document calls on us to act on what we know about learning, we suggest that dialogues on how to move away from time-based learning (e.g. seat time for credit hours) be continued and extended throughout MCCD.

The individuality of minds and the fact that we cannot possibly master everything are the strongest arguments against a uniform school system and for learner-centered schools where, in a nutshell, we treat individual differences differently. I would create three new positions for this school: 1) Assessment Specialist, 2) Student Curriculum Broker and, 3) School-Community Broker.

Howard Gardner, "Nature of Intelligence," 1991

Man's mind once stretched by a new idea never regains its original dimension.

Oliver Wendell Holmes, U.S. Supreme Court Judge

The learners and the learning facilitators must be aware of the awesome power that can be released when learning works well.

Terry O'Banion, League for Innovation in the Community College

• Learning is **natural and life-long**

This characteristic of learning implies two things. First, it implies that learning is a natural condition of being human. Humans inherently look for opportunities to create meaning from new situations. Ewell (1997) adds, however, "an obvious, but often-overlooked, implication of this capacity is to recognize all situations and events as learning opportunities" (p. 6).

The second implication of this characteristic is that learning can and should continue throughout a person's life. In fact, research has shown that new synaptic connections can continue to be generated and reused throughout the life cycle.

The fact that learning should continue throughout our lives is also supported by findings in the world of work. The changing role of education and its impact on worker performance is cited in the 1991 SCANS report which states:

> A strong back, the willingness to work, and a high school diploma were once all that was needed to make a start in America. They are no longer. A well-developed mind, a passion to learn, and the ability to put knowledge to work are the new keys to the future of our young people, the success of our business, and the economic well-being of our nation (p. 1).

All human beings, by nature, desire to know.

Aristotle, Philosopher

> To develop this idea further, Carol Twigg (1994) writes that
>
> "The Big Six" accounting firms have declared that no one can master the full content of a discipline in an undergraduate education. Rules change so fast that accountants must continually relearn them throughout their professional life. The Big Six want graduates not who know everything, but who have the capacity to learn (paragraph 5).

In a time of drastic change, it is the learners who inherit the future. The learned usually find themselves equipped to live in a world that no longer exists.

Eric Hoffer, Author and Philosopher

While our students are biologically capable of learning and continuing to learn after they leave MCCD, this does not mean that they have the learning skills, attitude, or desire to do so. It is our responsibility as members of an educational system to help students develop the skills that will allow them to facilitate their own learning, challenge them with a multitude of learning opportunities, and help to create an excitement about learning that will stay with them for the rest of their lives.

- Learning occurs on **multiple levels**

Theories about cognition such as Bloom's taxonomy support the idea that learning takes place on many levels. What is still not clear is how the brain actually moves between these levels.

WHAT IS BLOOM'S TAXONOMY OF LEARNING OBJECTIVES?

- ***Recall and recognition***
- ***Comprehension***
- ***Application***
- ***Analysis***
- ***Synthesis***
- ***Evaluation***

Benjamin Bloom, 1956

But to assume that the brain learns using the linear hierarchy suggested by Bloom's taxonomy is too simplistic. Rather, research indicates that the brain jumps wildly between levels with no obvious pattern or progression. "Knowledge is not seen as cumulative and linear, like a wall of bricks, but as a nesting and interacting of frameworks. Learning is revealed when those frameworks are used to understand and act" (Barr, 1995, p. 21).

For the knowledge gained at the skill level to become part of a person's mental framework, the brain must be engaged on a variety of levels. According to Dr. Jerre Levy of the University of Chicago, as quoted in *Peak Learning*, "brains are built to be challenged. They operate at optimal levels only when cognitive processing requirements are of sufficient complexity" (Gross, 1991, p. 28) However, if the brain is over-stimulated, i.e., presented with a problem which is too complex and too challenging, it will not operate at an optimal level either. The goal, then, is to find the balance. How do faculty provide the level of challenge and complexity that their students' brains require for deep and lasting learning to take place? How do they construct classroom activities and environments so that each student can experience learning to his/her full potential? How does our system support multi-

level learning? These are questions that warrant further discussion.

Learning is ever an individual project. Learning outcomes are the joint result of a college's best efforts — in teaching, curricula, and advisement — and of a student's own motivation, effort and time on task.

Ted Marchese, American Association of Higher Education

- Learning is **fundamentally personal, yet social**

At first glance, this characteristic may seem to be contradictory. How can learning be both personal and social?

Learning is deeply personal in that it occurs when we, as individuals, take the time to reflect on an idea or concept and attach it to our mental framework of understanding. Ruth and Art Winter, as quoted in *Peak Learning*, state that "learning is the ability to make sense out of something you observe based on your past experience and being able to take that observation and associate it with meaning" (Gross, 1991, p. 254). James Romig (1997), professor at Drake University, writes that "each learner must actively create mental representations of external 'facts' and actively create personal patterns of understanding. Learning is a process of active exploration, adaptation, and meaning-making" (paragraph 46).

Learning is also social in that we learn with and from others. Research (Dickinson, 1994, Table of Contents) has shown "that when students learn together in pairs or small groups, learning is faster, there is greater retention, and students feel more positive about the learning process" (p. 8). This idea is further developed by Peter Ewell (1997), who suggests that "learning occurs best in a cultural and interpersonal context that supplies a great deal of enjoyable interaction and considerable levels of personal support"(p. 8). These interactions can take place during class with formalized group activities, or after class when students study together. They can also take place with members of community groups and with college organizations.

The fact that learning is fundamentally personal yet also social does not require that these conditions exist simultaneously, although they could. Rather, for optimum learning to take place, the learner needs the opportunity to personally reflect on concepts and ideas and the opportunity to interact with other learners. This is the challenge for our instructors and our colleges. Where is the balance between presenting information and allowing students to consider it together? How should activities and class time be organized to provide the greatest opportunity for learning for all students? How should colleges be designed to provide ample student space for informal study gatherings? How can community bonds be strengthened to provide increasing opportunities for student/college/community interaction? The answers to these questions will be determined as a result of continued dialogue, experimentation and research, both within our system and with external constituents.

- Learning is **active and interactive**

Learning itself is an active verb and, as a faculty colleague noted, the descriptor "active learning" is redundant. But truly understanding

the active nature of learning leads us to an exploration of the actions and interactions that occur within the learning process.

Research predicts that deep and lasting learning occurs as a learner proceeds through a series of stages. While this progression may not be sequential, each stage is characterized by an *action* taken by the learner which, if successfully negotiated, leads to learning. If one action is omitted from the process, or if the learner's activity within a stage is truncated, learning may not occur or it may be diminished. The stages leading to learning include exposure to new information, thinking about it, evaluating it, connecting it, storing it, activating it, applying it, understanding it and reflecting on it. While these are actions taken by the learner, faculty and others who support learning are generally partners in the process. A faculty colleague's description captures the cooperative nature of learning: "the power of learning is in the student and the act of teaching is designed to activate this power in the student" (Sullivan, 1996, p 4).

Not I, but the city teaches.

Socrates, Philosopher

In the *7 Principles for Good Practice in Undergraduate Education* (Chickering and Gamson, 1987) the authors suggest that "good practice encourages active learning" (p. 1). This principle, anchored in decades of research about teaching and learning, calls on us to consider methods to expand the terms of engagement between student and teacher. It suggests that we think about and act on what we know about how student participation in the learning process leads to higher levels of deep and lasting learning.

That learning is also **interactive** connotes that the learner is actively engaged with others. It suggests the development of four central relationships, each of which can be viewed in terms of its quality and frequency of occurrence. These relationships are:

- Between learner and faculty
- Between learner and others who support the learning process
- Between learner and other learners
- Between learners and others outside of the college environment

The degree to which learners view faculty as partners in the learning process and not merely as "dispensers of knowledge," is a reliable indicator of the quality and depth of the relationship. A learner-faculty relationship in which the learner experiences the faculty member as mentor, coach, and facilitator signals a depth of relationship beyond that suggested by the stereotypical "sage on the stage" metaphor. Another level of interaction between learner and faculty is one in which the faculty member regularly models what it means to be a learner. Such modeling creates a particularly powerful learning environment and higher levels of learning.

Next, consider the relationship between learner and others who support the learning process. Compelling evidence indicates that relationships between learners and others who support the learning process have become increasingly more important. For example, as

we reach a broader understanding of the "diversity" of learners, the added value of their interacting with others who support learning becomes far more explicit. Today, in the context of a college setting, diversity now refers to a learner's:

- Academic preparedness
- Learning style
- Experience
- Ethnicity
- Age
- Gender
- Financial capacity
- Marital status
- Career and personal goals

When I am asked which member of the Harvard faculty has the most influence on my education in medicine I no longer grope for a name on that distinguished roster. What I remember is the influence of my classmates.

Lewis Thomas, Author

Clearly, faculty and others who support the learning process serve in facilitating roles relative to learning. The degree to which learners connect to a range of high quality support services has a direct influence on both learner and faculty success.

Interaction between learners themselves also provides significant opportunities to enrich learning. Collaboration among peers and various forms of active apprenticeship and initiation are among the most prominent of these traditional forms. Faculty often include learning communities, study teams, peer evaluation, and group projects as a means of facilitating such learning.

Current collaborative learning models are based primarily on two theories (D. Johnson and R. Johnson, 1992):

1) If student learning goals are structured cooperatively then students will help, assist, encourage and support each other's efforts to achieve.

2) This interaction pattern in turn results in greater learning, more positive relationships among students, and increased psychological well-being.

Typical academic activities in college are notoriously "arid" when it comes to experience, and students are quick to notice it.

Peter Ewell, "Organizing for Learning: A Point of Entry," 1997

The value of collaborative learning extends beyond the college setting. The ability of individuals to work in teams and to contribute to organizational learning have become increasingly valued skills in today's workplace. Considering the benefits of collaborative learning and learning communities, we are again challenged to think systemically about how to extend and support their use. For example, at the most pragmatic level we can consider if rooms are arranged to accommodate collaborative learning. At a higher level, collaborative learning and the development of learning communities can be enriched by instructional technology and new forms of student access that facilitate learner interaction irrespective of time and location. At

both levels, the relationships and practices that exist across the organization largely determine our ability to encourage interaction between students.

Finally, interactions between learners and those outside of the college environment represent a unique and rich opportunity to foster learning. Internships, service learning experiences, cooperative education and student engagement with real-world issues are all opportunities for interaction. Each opportunity facilitates the learner's ability to apply and test what they have learned in the academic setting. Since such experiences frequently involve "meaning making" and "connecting" they lead to deep and lasting learning.

An important caution at all levels, though, is to avoid treating "experience" as an add-on pedagogy.

Peter Ewell, "Organizing for Learning: A Point of Entry," 1997

- Learning is **measurable**

The measuring of learning is a widely discussed and debated topic. On one end of the continuum there are forces pushing for rigid assessment and "accountability" for learning; at the other end there are those who insist that "true" learning simply cannot be measured. In the middle, of course, are those who maintain that some learning is measurable and some is not.

In our minds, the discussion would benefit from a rethinking and reframing of the above issue. O'Banion (1997) posits two fundamental measurement criteria:

1. What does this learner know?
2. What can this learner do?

We learn 10% of what we read, 15 % of what we hear and 80% of what we experience.

Anonymous, New Horizons in Learning, 1997

Both questions serve as a starting point for student assessment. Measurement, as we view it, involves four additional questions:

3. How do we measure?
4. When do we measure?
5. Who establishes what will be measured
6. Who does the measuring?

Our ability to effectively measure learning is central to learning itself. As such, we suggest extensive dialogue around each of the six questions above. As is the case with each of our learning characteristics, the policies, practices and procedures relating to measurement have extensive systemic implications for learning.

The ways in which students are assessed powerfully affects the ways in which they study and learn.

Tom Angelo, Professor, University of California Berkeley

- Learning is greatly influenced by the **organizational factors** of leadership, culture and structure.

Within the systems perspective of learning are three central considerations: leadership, culture and structure. The three are often viewed as independent. Within the context of a learner's personal experience with the organization, however, they are inseparable and have a far-reaching impact on both student and organizational learning.

The first responsibility of leadership is to define reality.

Herman Miller, Max de Pree, Inc.

Moving student learning to the core of the Maricopa Community College District has significant implications for leaders, students and everyone else in, and connected to, the organization. The traditional roles of leaders as direction-setters, key decision makers and motivators are roles that are deeply rooted in a non-systemic, hierarchical viewpoint. With the goal of student learning at the core and organizational learning as a complementary value, the roles of leadership transform around three powerful metaphors (Senge 1990):

- Leaders as Stewards

  Leaders provide stewardship for the people by sharing and exemplifying the organization's mission.

- Leaders as Teachers

  Leaders focus on modeling the organization's values and helping others to develop a systemic view of the organization.

- Leaders as Designers

  Leaders help to establish the "social architecture" of the organization, its purpose, vision and values.

By assuming these roles, leadership has the potential to transform the culture of the Maricopa Community College system to one in which learning is a vital core value for both students and colleagues.

In order to begin assessing the culture of learning in your MCCD environment, reflect on the following questions:

- To what degree is learning:
  - talked about?
  - inquired into?
  - reflected on?
  - documented by self, by peers?
  - reviewed by students and peers?
  - valued by leadership, peers?
  - recognized by peers and the community?
  - rewarded?
- How would you assess the culture for learning in your department, your college, or in MCCD?

  Don't Ask ———— Spotty ———— Systemic

While assessing the culture for learning at the individual level is quite easy, changing culture at the organizational level is another story. Central to such transformation is a broad-based recognition of the need for such change. Interestingly, it is most often external forces such as financial shortfalls, legislative mandates, or increased public scrutiny that provide the initial momentum for cultural change and the organizational transformation that follows.

Faculty, students and others who support learning all function within the district's structural context of policies, procedures, practices, traditions, and arrangements that reflect existing organizational values. The congruency between Maricopa's mission and the structures that we have in place to advance the mission indicates the degree to which we have adopted a systems-based perspective of learning. We know a great deal about learning and creating environments that foster it, but our ability to act on what we know is deeply influenced by the prevailing organizational structures. The influence that leadership, culture, and structure have on learning cannot be overstated. Indeed, taken together, these three factors create an organizational ecology that either fosters learning at all levels or diminishes it.

At a concrete level, organizational culture is what people do every day within the time and space of their organizational life.

Atlantic Rim Group

Continuing the Dialogue

The intent of this document is that it be viewed as a catalyst for substantive dialogue about learning so that we can establish a clear and definitive statement about learning as the core value for Maricopa. We recognize, however, that it will take more than conversation to make learning our common denominator. It will also require courage, resolve, and ultimately, action. This section suggests some of the essential questions that will lead to action in our transformational journey. We invite you to participate in discussing the questions, defining the actions, and adding to the list.

1. How do we instigate and sustain dialogue about learning?
2. How do we help faculty and others who support learning to research, develop, and/or innovate their current systems and processes to focus on learning outcomes?
3. How do we increase support for professional growth and employee renewal to perpetuate learning needs?
4. How do we involve faculty and those who support learning in defining "Ends Statements" with the Governing Board, especially those related to student achievement and student learning outcomes?
5. Is there an alternative process for college funding (i.e., not based on FTSE, but on learning)?
6. How do we assess current leadership, systems, and processes as well as district-wide and college initiatives and projects as to their interrelationships and their focus on learning ?
7. How do we encourage and support the development of systems-based perspective and systems thinking skills to establish a true learning-centered system?

No matter how much experience you have in banging your head against the wall, if the structure doesn't support it, it won't be successful.

Robert Fritz, Organizational Theorist

Resources and Recommended Readings

Albrecht, K. (1980). *Brain Power: Learn to Improve Your Thinking Skills.* New York: Prentice-Hall.

Barr, R.B., & Tagg, J. (November/December 1995). From teaching to learning: A new paradigm for undergraduate education. *Change: The Magazine for Higher Learning* , 27, 6 , 13-25.

Chickering, A.W., & Gamson, Z.F. (June 1987). Seven principles for good practice in undergraduate education. *The Wingspread Journal*, 1-4.

Dickinson, D. (1994). Table of Contents. *Positive trends in learning: Meeting the needs of a rapidly changing world.* [On-Line]. Available: http://www.newhorizons.org/positive trends.html

Ewell, P. (1997). *Organizing for learning: A point of entry.* Draft prepared for discussion at the American Association for Higher Education Summer Academy, Snowbird, UT.

Gross, R. (1991). *Peak learning: How to create your own lifelong education program for personal enjoyment and professional success.* New York: Tarcher/Putnam.

Johnson, D., & Johnson, R. (Spring 1992) Implementing cooperative learning. *Contemporary Education, 63,* 173-80.

O'Banion, T. (January 1997) The learning revolution: A guide for community college trustees. *Trustee Quarterly 1,* 16

Romig, J. (1997). *Cogito: The cognitive paradigm.* [On-Line]. Available: http://www.educ.drake.edu/romig/cogito/cognitive_paradigm.html

Senge, P. (1990). *The fifth discipline.* New York: Doubleday.

Sullivan, W. (October 1996). *A commentary on the four key concepts of the desired learning paradigm.* Paper written as a response to the *Maricopa Roundtable Policy Perspectives* paper of July, 1994.

Twigg, C. (July/Agusut 1994). The changing definition of learning. *Educom Review* 29, 4. Available: http://www.educom.edu/web/pubs/review/reviewArticles/29422.html

U.S. Department of Labor, (June 1991). *What work requires of schools: A SCANS report for America 2000,* 1-28.